## IN THE CLAIMS

Please amend Claims 1, 2, 7-11, 16, 17, 22, 24, and 25 as follows:

1.     A post-processing method for correcting media noise errors and producing a recovered data output signal, for use in a sampled data read channel of a mass data storage device that has a Viterbi detector that receives actual sampled partial response target data from a data medium of the mass data storage device, comprising:

filtering a recovered partial response target signal derived from said recovered data output signal and said sampled partial response target data to produce a filtered output signal;

providing a threshold circuit to provide a threshold against which said filtered output signal is compared;

adding a predetermined value to the filtered output signal when a predetermined error event pattern due to media noise occurs in said recovered data output signal; and modifying the recovered data output signal when said filtered output signal exceeds the threshold of said threshold circuit.

2.     The method of claim 1 wherein said Viterbi detector is an Extended Partial Response Class 4 Viterbi detector.

7.     The method of claim 1 wherein said predetermined value in an EPR4 channel is –A when said predetermined error event pattern is "1X1" where x is either 1 or 0.

8.     The method of claim 1 wherein said predetermined value in an EPR4 channel is +A when said predetermined error event pattern is "0X0" where x is either 1 or 0.

9.    The method of claim 1 wherein said predetermined value in an EPR4 channel is 0 when said predetermined error event pattern is other than "1X1" or "0X0" where x is either 1 or 0.


10.    The method of claim 1 wherein said predetermined value in an EEPR4 channel is determined from the following tables:

| Recovered Write Current (k) | | | | | | | Output |
|---|---|---|---|---|---|---|---|
| k | -3 | -2 | -1 | 0 | 1 | 2 | 3 | |
| X | 0 | 0 | X | 0 | 0 | X | |
| 1 | 1 | 0 | X | 0 | 0 | X | Ajitter |
| X | 0 | 0 | X | 0 | 1 | 1 | |
| X | 1 | 1 | X | 1 | 1 | X | |
| 0 | 0 | 1 | X | 1 | 1 | X | -Ajitter |
| X | 1 | 1 | X | 1 | 0 | 0 | |
| Others | | | | | | | 0 |

| Polarity Check | | | | Correction | |
|---|---|---|---|---|---|
| Amplitude | Polarity | (0) | (1) | (0) | (1) |
| *fexA(6) *>VthA | FexA(6)>0 | 0 | X | 1 | X |
| | FexA(6)<0 | 1 | X | 0 | X |
| *FexB(6) *>VthA | FexA(6)>0 | 0 | 1 | 1 | 0 |
| | FexA(6)<0 | 1 | 0 | 0 | 1 |

wherein the polarity check correction table is logically or'd with the output of the recovered write current (k) table to produce a correction value where x is either 1 or 0.

11.    The method of claim 1 wherein said predetermined value in an EPR4 channel is determined from the following table:

| Recovered Write Current (k) | | | | Output |
|---|---|---|---|---|
| k | -1 | 0 | 1 | |
| | 0 | X | 0 | Ajitter |
| | 1 | X | 1 | -Ajitter |
| Others | | | | 0 |

and the polarity is determined from the following table:

| Polarity check | | Correction | |
|---|---|---|---|
| Amplitude | Polarity | | |
| *fexA* > VthA | FexA > 0 | 0 | 1 |
| | FexA < 0 | 1 | 0 |

where x is either 1 or 0.

16.    The method of claim 12 wherein said predetermined value in an EEPR4 channel is determined from the following tables:

| Recovered Write Current (k) | | | | | | | Output |
|---|---|---|---|---|---|---|---|
| k | -3 | -2 | -1 | 0 | 1 | 2 | 3 | |
| | X | 0 | 0 | X | 0 | 0 | X | Ajitter |
| | 1 | 1 | 0 | X | 0 | 0 | X | |
| | X | 0 | 0 | X | 0 | 1 | 1 | |
| | X | 1 | 1 | X | 1 | 1 | X | -Ajitter |
| | 0 | 0 | 1 | X | 1 | 1 | X | |
| | X | 1 | 1 | X | 1 | 0 | 0 | |
| Others | | | | | | | | 0 |

| Polarity Check | | | | Correction | |
|---|---|---|---|---|---|
| Amplitude | Polarity | (0) | (1) | (0) | (1) |
| *fexA(6) *>VthA | FexA(6)>0 | 0 | X | 1 | X |
| | FexA(6)<0 | 1 | X | 0 | X |
| *FexB(6) *>VthA | FexA(6)>0 | 0 | 1 | 1 | 0 |
| | FexA(6)<0 | 1 | 0 | 0 | 1 |

wherein the polarity check correction table is logically or'd with the output of the recovered write current   (k) table to produce a correction value where x is either 1 or 0.

17. The method of claim 12 wherein said predetermined value in an Extended Partial Response Class 4_channel is determined from the following table:

| Recovered Write Current (k) | | | Output |
|---|---|---|---|
| k | -1 | 0 | 1 | |
| | 0 | X | 0 | Ajitter |
| | 1 | X | 1 | -Ajitter |
| Others | | | 0 |

and the polarity is determined from the following table:

| Polarity check | | Correction | |
|---|---|---|---|
| Amplitude | Polarity | | |
| *fexA* > VthA | FexA > 0 | 0 | 1 |
| | FexA < 0 | 1 | 0 |

where x is either 1 or 0.

22. The circuit of claim 18 wherein said Viterbi detector has a partial response level of at least Extended Partial Response Class 4.

24. The method of claim 18 wherein said predetermined value in an EEPR4 channel is determined from the following tables:

| Recovered Write Current (k) | | | | | | | Output |
|---|---|---|---|---|---|---|---|
| k | -3 | -2 | -1 | 0 | 1 | 2 | 3 | |
| | X | 0 | 0 | X | 0 | 0 | X | Ajitter |
| | 1 | 1 | 0 | X | 0 | 0 | X | |
| | X | 0 | 0 | X | 0 | 1 | 1 | |
| | X | 1 | 1 | X | 1 | 1 | X | -Ajitter |
| | 0 | 0 | 1 | X | 1 | 1 | X | |
| | X | 1 | 1 | X | 1 | 0 | 0 | |
| Others | | | | | | | | 0 |

| Polarity Check | | | | Correction | |
|---|---|---|---|---|---|
| Amplitude | Polarity | (0) | (1) | (0) | (1) |
| *fexA(6)*>VthA | FexA(6)>0 | 0 | X | 1 | X |
| | FexA(6)<0 | 1 | X | 0 | X |
| *FexB(6)*>VthA | FexA(6)>0 | 0 | 1 | 1 | 0 |
| | FexA(6)<0 | 1 | 0 | 0 | 1 |

wherein the polarity check correction table is logically or'd with the output of the recovered write current (k) table to produce a correction value where x is either 1 or 0.

25.    The method of claim 18 wherein said predetermined value in an EPR4 channel is determined from the following table:

| Recovered Write Current (k) | | | | Output |
|---|---|---|---|---|
| k | -1 | 0 | 1 | |
| | 0 | X | 0 | Ajitter |
| | 1 | X | 1 | -Ajitter |
| Others | | | | 0 |

and the polarity is determined from the following table:

| Polarity check | | Correction | |
|---|---|---|---|
| Amplitude | Polarity | | |
| *fexA* > VthA | FexA > 0 | 0 | 1 |
| | FexA < 0 | 1 | 0 |

where x is either 1 or 0.